

them in boxes, which were stored away in the Asylum. He also filed with the County Clerk a section and record of the work.

Through the kindness of Dr. Hazard, Superintendent of the Asylum, I obtained a complete suit of these specimens, and from an examination of them I have made out the following Section, which differs but little from that of Mr. Atkinson:

## SECTION OF BORING.

No.	Feet in Thickn.	DESCRIPTION OF MATERIAL PASSED THROUGH.	Total Depth below surface.
$II. \begin{cases} 2\\ 3\\ 4\\ 5\\ 6 \end{cases}$	4 5 8 4 5 2	Clay Tumbled masses of Limestone Red Clay Limestone Red Clay Coal Fire-clay Light-colored Limestone. Bottom of well dug before commencement of boring.	44 ft 49 57 61 66 68

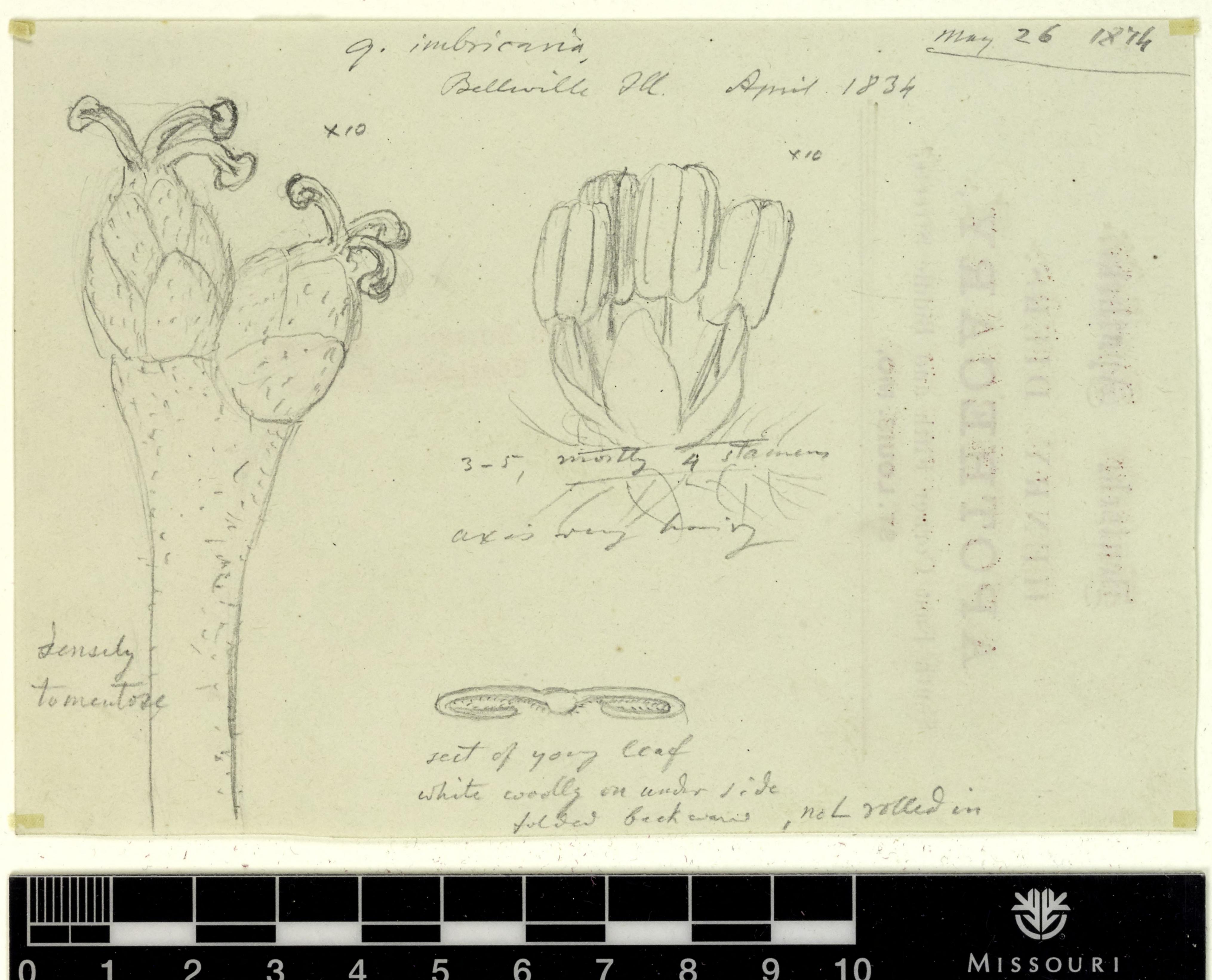
			Coai	7.00
			Light-blue Clay	120
V.	15	139	Hard cherty Limestone, blue, drab, and gray;	
	N.		some of it cherty, the upper part fine-grained,	
			the lower coarse, to	
VI.	16	3	Blue Shales	
(	17	176	Drab and gray Limestone, generally hard and	
1 3 3 3 3 3 3 3 3	11	170	cherty, but a portion of it is free from chert.—It	
			is drab in color to	
VII.			"then dark ash-colored at	
1			" " drab " to	
			" " grayish and light drab to	420
			" " cherty at	420
			and is of a dark color to	438
VIII.	18	62	Dark-drab Limestone	
IX.			The recorded Section reports white Limestone	
	19	21	alternating with Shales from 438 to	
V	20			
STATE OF THE STATE			Hard blue cherty Limestone	10
XI.			Very hard Chert at	082
1	21	75	Coarse bluish-gray Limestone from 628 to	703
	35%		Buff and drab cherty Limestone at	
XII.	22	6	Sandstone, very fine-grained, to	709
(			Chert and Limestone at	721
XIII.			Mostly light-gray or drab Limestone to	732
)	2.5		Mostly light-gray or drab Limestone to	700
XIV	26	IO	Red Limestone from 790 to	800
VII	20	25	Light-drah and gray Limestone with some Chart	000
-Z1 V .	21	35	Light-drab and gray Limestone with some Chert from 800 to	00-
	N. C.	A Day	110111 000 10	035

NO.	Feet in Thickn.	DESCRIPTION OF MATERIAL PASSED THROUGH.		
(28		Arcillaceous I imestone to	840	
XVI. \ 29	43	Argillaceous Limestone to Limestone with some Chert; upper part light-gray, the lower of a still lighter color	00-	
		gray, the lower of a still lighter color	883	
XVII. § 30	67	Mostly a light-gray or blue Clay	950	
31	16	Dark Clay	900	
X V 111. 32   33	194	Blue Clay alternating with thin Limestone layers Blue and drab Limestone, with probably some		
		Magnesian layers at 1139 ft., to	1216	
	3	Cream-colored Magnesian Limestone at	1210	
XIX. \ 35	9	Light-blue cherty Limestone, with salt water at	1220	
		extending to		
		Light-colored Limestone from 1225 to	The state of the s	
		Dark Limestone to		
XX. 38	49	Light-drab cherty Limestone to	1353	
39	17	Yellowish-gray Limestone to	1370	
		Dark Limestone from 1402 to		
		Light-colored Limestone		
XXII. 43	133	Mostly pure white Sandstone, the upper portion		
		soft and consisting of pure, clear and rounded		
		grains, and contains sulphurous water. The		
		lower portion is somewhat brown. Extends		
		from 1452 ft. to · · · · · · · · · · · · · · · · · ·	1585	
(44	61	Buff-brown and drab-cherty Limestone to	164h	
XXIII. 3 45	67	Buff and brown Magnesian Limestone, some of		
		it cherty, to	1713	
XXIV. 46	389	Buff and drab cherty Magnesian Limestone, to	2102	
47	82	Hard and mostly pure Sandstone, with some		
XXV.		Limestone beds with Chert, buff and brown or	0.	
		reddish-gray, to	2104	
XXVI.	487	Limestone and Chert—colors buff, drab, and		
		gray. The Chert beds include probably one-	-6	
		half the entire series from 2184 to	· ·	
XXVII. 49	172	No Chert from 2671 to 2735. Sand often abun-	-0	
		dant to	2843	
XXVIII. 50	37	Mostly Sandstone with a little Lime in the upper	2000	
*****		part to	2000	
XXIX. 51	142	Limestone, mostly free from Chert and Sand. to	3022	
XXX. 52	98	Sandstone, upper portion dirty, middle blue, and	2720	
VVVV		the lower part is reddish-gray with a blue tinge	3120	
XXXI. 53	13	Dark Magnesian Slate to Impestone	3133	
XXXII. 54	371	Yellowish-drab or gray Magnesian Limestone,		
		hard, and contains but little Sand. The lower		
		66 ft. is thin-bedded dirty-reddish-gray, with	2504	
VXXXIII -		some sandy beds, to	3504	
XXXIII. 55	41	Mostly hard thin-bedded Sandstone, dark olive-		
		gray in color—under the magnifying-glass it		
		seems to be formed of white and black grains—	2515	
VVVIII		to	3545	
XXXIV. 50	0 3	Sand and Limestone to	3550	
AAAV. 5	1 522	Brown Sandstone near upper part, the lower		
		mostly Granite—the lower 40 ft. is a hard red		
		rock, and is certainly powdered Granite, for		
	Zana in	some of the grains are red Quartz or Feld-	2812	
		spar—to	3043	

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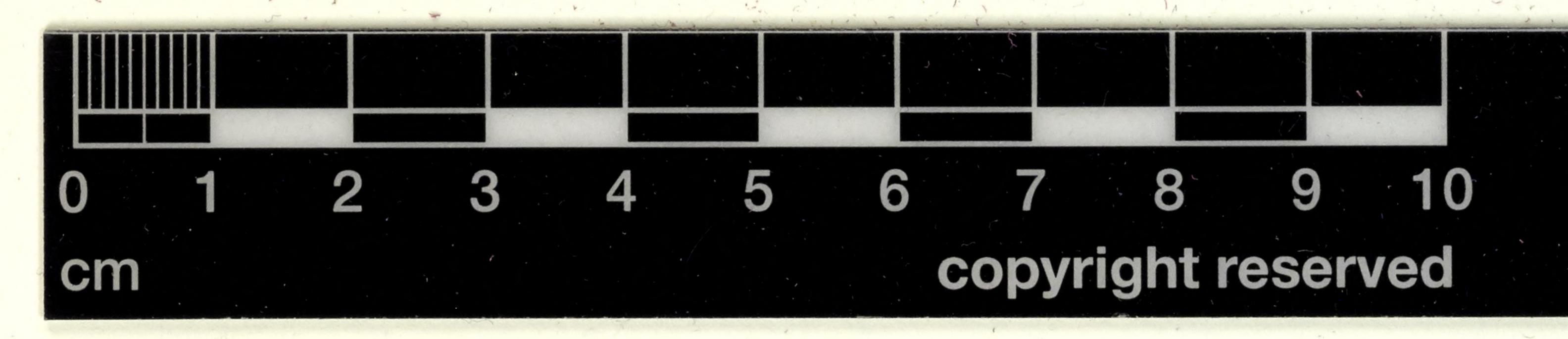
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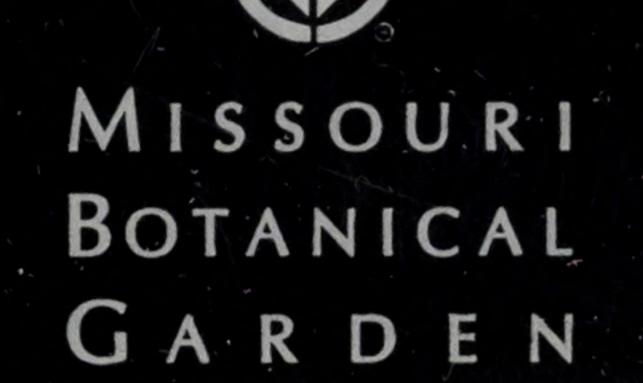
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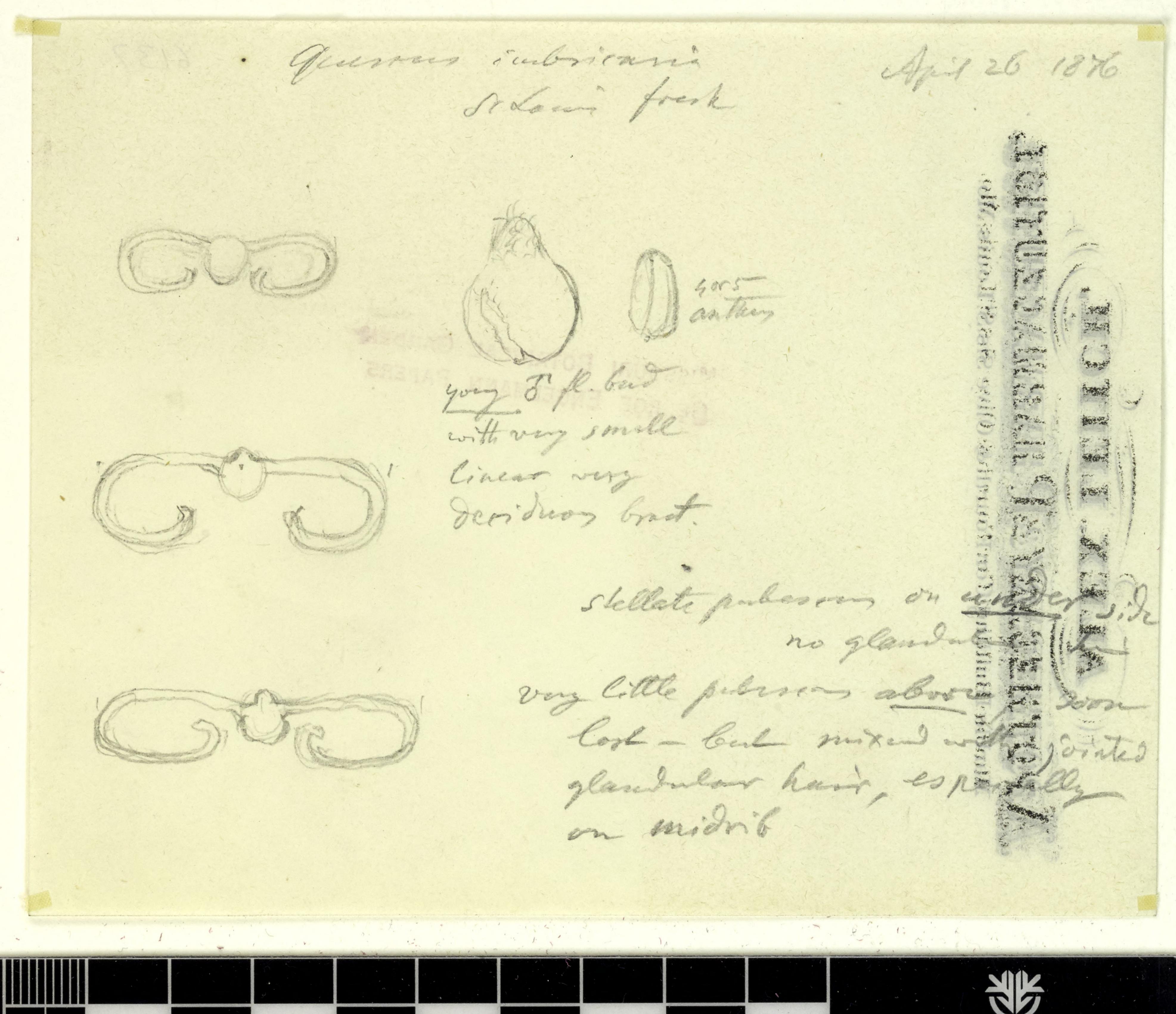
## HENRY DIERS.

## APOBEROAN

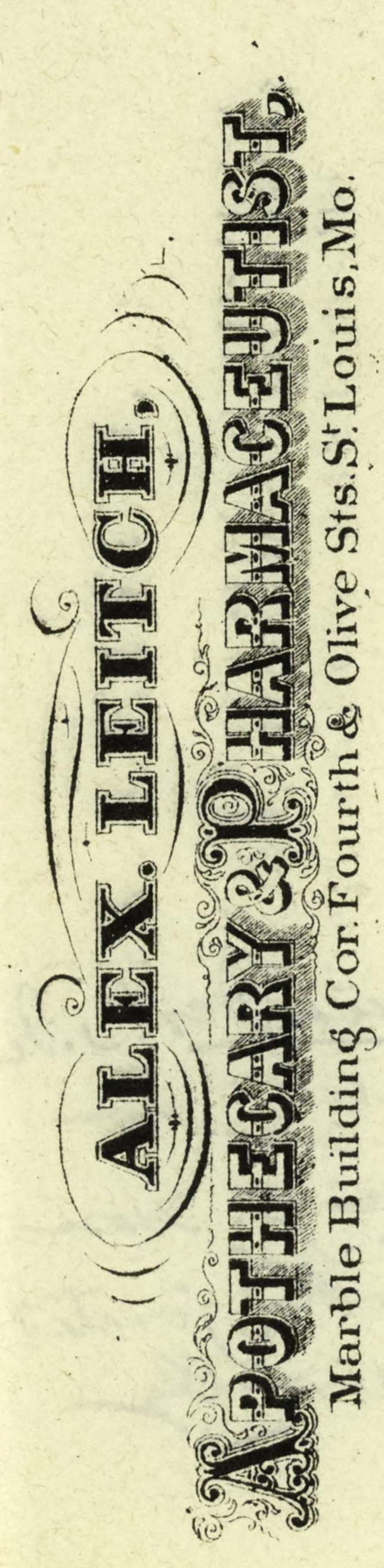
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irregular way, crossing from side to side, the two indentations of the down-strokes of the pen, but it will accompany irregularly the hair-lines. I speak of this latter peculiarity with some doubt, as the instrument I use is not the best which science now has at its command for this purpose, though competent under perfect conditions."

He paused, and then the forged signature appeared upon the wall. There was a universal burst of admiration, and then all grew still,—as if those who had given way to their feeling were suddenly stricken with the consciousness that they were witnessing a drama in which divine forces were playing a part. There were the ragged, jagged edges of the letters; there was the supplementary line, traceable in every part of them. There was man's lie-revealed, defined, convicted by God's truth!

The letters lingered, and the room seemed almost sensibly to sink in the awful silence. Then the stillness was broken by a deep voice. What lips it came from no one knew, for all the borders of the room were as dark as night. It seemed, as it echoed from side to side, to come from every part of the house: "Mene, mene, tekel, upharsin!" Such was the effect of these words upon the eager crowd, that when the shutters were thrown open, they would hardly have been surprised to see the bar covered with golden goblets and bowls of wassail, surrounded by lordly revelers and half-nude women, with the stricken Belshazzar at the head of the feast. Certainly Belshazzar, on his night of doom, could hardly have presented a more pitiful front than Robert Belcher, as all eyes were turned upon him. His face was haggard, his chin had dropped upon his breast, and he reclined in his chair like one on whom the plague had laid its withering hand.

There stood Professor Timms in his triumph. His experiment had proved to be a brilliant success, and that was all he cared tor.

"You have not shown us the other signatures," said Mr. Balfour.

"False in one thing, false in all," responded the Professor, shrugging his shoulders. "I can show you the others; they would be like this; you would throw away your time."

Mr. Cavendish did not look at the witness, but pretended to write.

"Does the counsel for the defense wish to question the witness?" inquired Mr. Balfour, turning to him.

"No," very sharply.

"You can step down," said Mr. Balfour. As the witness passed him, he quietly grasped his hand and thanked him. A poorly suppressed cheer ran around the court-room as he resumed his seat. Jim Fenton, who had never before witnessed an experiment like that which, in the Professor's hands, had been so successful, was anxious to make some personal demonstration of his admiration. Restrained from this by his surroundings, he leaned over and whispered:

"Professor, you've did a big thing, but it's the fust time I ever knowed any good to come from peekin' through a key-hole."

"Thank you," and the Professor nodded sidewise, evidently desirous of shutting Jim off; but the latter wanted further conversa-

"Was it you that said it was mean to tickle yer parson?" inquired Jim.

"What?" said the astonished Professor,

looking round in spite of himself.

"Didn't you say it was mean to tickle yer parson? It sounded more like a furriner," said Jim.

When the Professor realized the meaning that had been attached by Jim to the "original Hebrew," he was taken with what and excited, yet thoroughly solemnized seemed to be a nasal hemorrhage that called for his immediate retirement from the courtroom.

What was to be done next? All eyes were turned upon the counsel, who were in earnest conversation. Too evidently the defense had broken down utterly. Mr. Cavendish was angry, and Mr. Belcher sat beside him like a man who expected every moment to be smitten in the face, and who would not be able to resent the blow.

"May it please the Court," said Mr. Cavendish, "it is impossible, of course, for counsel to know what impression this testimony has made upon the Court and the jury. Dr. Barhydt, after a lapse of years, and dealings with thousands of patients, comes here and testifies to an occurrence which my client's testimony makes impossible; a sneak discovers a letter which may have been written on the third or the fifth of May, 1860—it is very easy to make a mistake in the figure, and this stolen letter, never legitimately delivered—possibly never intended to be delivered under any circumstances—is produced here in evidence; and, to crown all, we have had the spectacular drama in a single act by a man who has appealed to the imaginations of us all, and who, by his skill in the management of an



iar, has found it easy to make a falsehood | could hardly be ashamed. appear like the truth. The counsel for the plaintiff has been pleased to consider the "have you been on friendly terms with the establishment or the breaking down of the assignment as the practical question at issue. I cannot so regard it. The question is, whether my client is to be deprived of the fruits of long years of enterprise, economy, and industry; for it is to be remembered that, by the plaintiff's own showing, the defendant was a rich man when he first knew him. I deny the profits from the use of the plaintiff's patented inventions, and call upon him to prove them. I not only call upon him to prove them, but I defy him to prove them.' It will take something more than superannuated doctors, stolen letters, and the performances of a mountebank to do this."

This speech, delivered with a sort of frenzied bravado, had a wonderful effect upon Mr. Belcher. He straightened in his chair, and assumed his old air of self-assurance. He could sympathize in any game of "bluff," and when it came down to a square fight for money his old self came back to him. During the little speech of Mr. Cavendish, Mr. Balfour was writing, and when the former sat down, the latter rose, and, addressing the Court, said:

"I hold in my hand a written notice, calling upon the defendant's counsel to produce in court a little book in the possession of his client, entitled, 'Records of profits and investments of profits from manufactures under the Benedict patents,' and I

hereby serve it upon him."

Thus saying, he handed the letter to Mr. Cavendish, who received and read it.

Mr. Cavendish consulted his client, and then rose and said:

such book in existence."

"I happen to know," rejoined Mr. Balfour, "that there is such a book in existence, unless it has recently been destroyed. This I stand ready to prove by the testimony of Helen Dillingham, the sister of the plaintiff."

"The witness can be called," said the

Judge.

Mrs. Dillingham looked paler than on the day before, as she voluntarily lifted her vail and advanced to the stand. She had dreaded the revelation of her own treachery toward the treacherous proprietor, but she had sat and heard him perjure himself, until her own act, which had been performed on ham?"

experiment with which none of us are famil- | behalf of justice, became one of which she

"Mrs. Dillingham," said Mr. Balfour, defendant in this case?"

"I have, sir," she answered. "He has been a frequent visitor at my house, and I have visited his family at his own."

"Was he aware that the plaintiff was

your brother?" "He-was not."

"Has he, from the first, made a confidant of you?"

"In some things—yes."

"Do you know Harry Benedict—the plaintiff's son?"

"I do, sir."

"How long have you known him?"

"I made his acquaintance soon after he came to reside with you, sir, in the city."

"Did you seek his acquaintance?"

"I did, sir."

"From what motive?"

"Mr Belcher wished me to do it, in order to ascertain of him whether his father were living or dead."

"You did not then know that the lad

was your nephew?"

"I did not, sir."

"Have you ever told Mr. Belcher that your brother was alive?"

"I told him that Paul Benedict was alive, at the last interview but one that I ever had with him."

"Did he give you at this interview any reason for his great anxiety to ascertain the facts as to Mr. Benedict's life or death?"

"He did, sir."

"Was there any special occasion for the

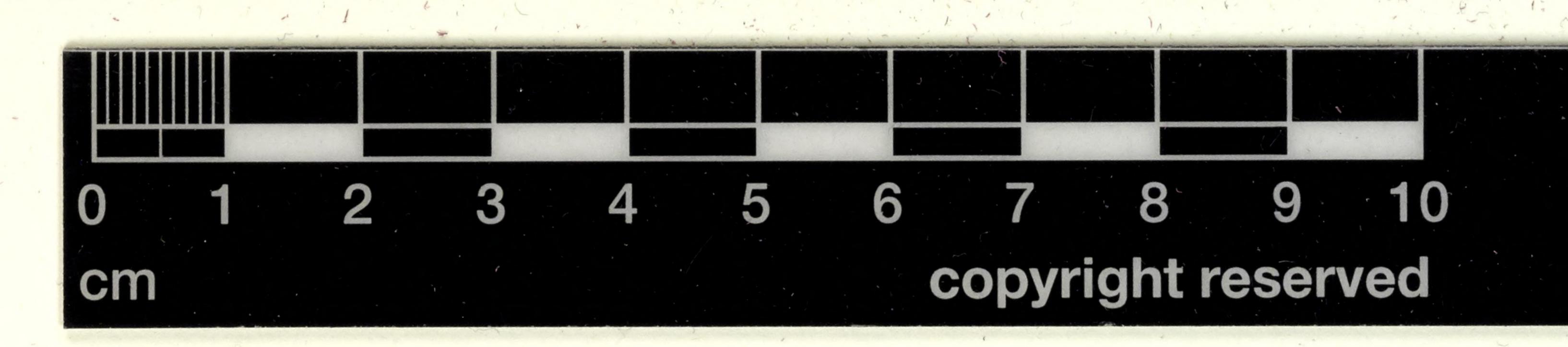
visit you allude to?"

"I think there was, sir. He had just lost heavily in International Mail, and evi-"May it please the Court, there is no dently came in to talk about business. At any rate, he did talk about it as he had never done before."

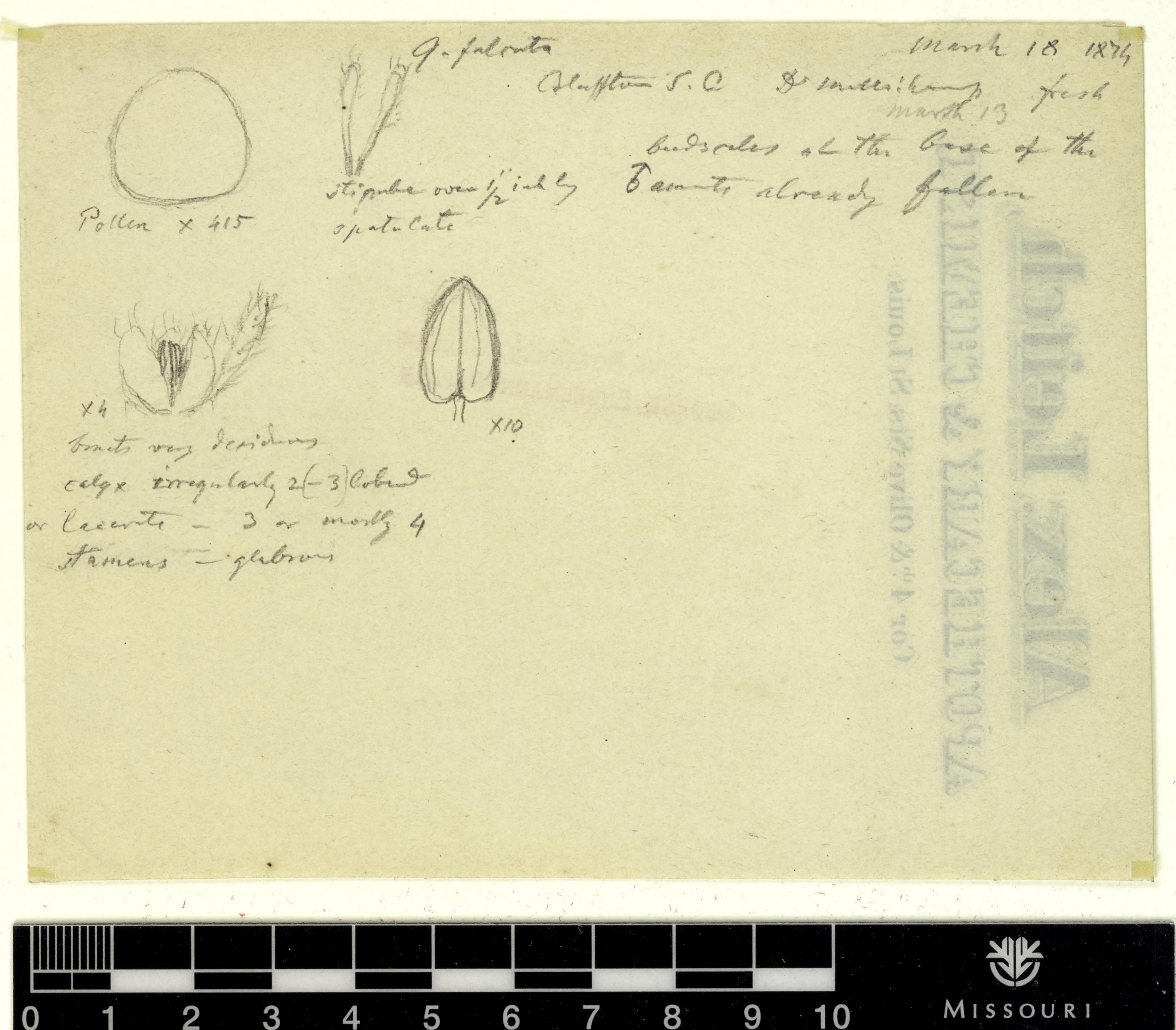
"Can you give us the drift or substance of his conversation and statements?"

"Well, sir, he assured me that he had not been shaken by his losses—said that he kept his manufacturing business entirely separate from his speculations, gave me a history of the manner in which my brother's inventions had come into his hands, and, finally, showed me a little account-book, in which he had recorded his profits from manufactures under what he called the Benedict Patents."

"Did you read this book, Mrs. Dilling-



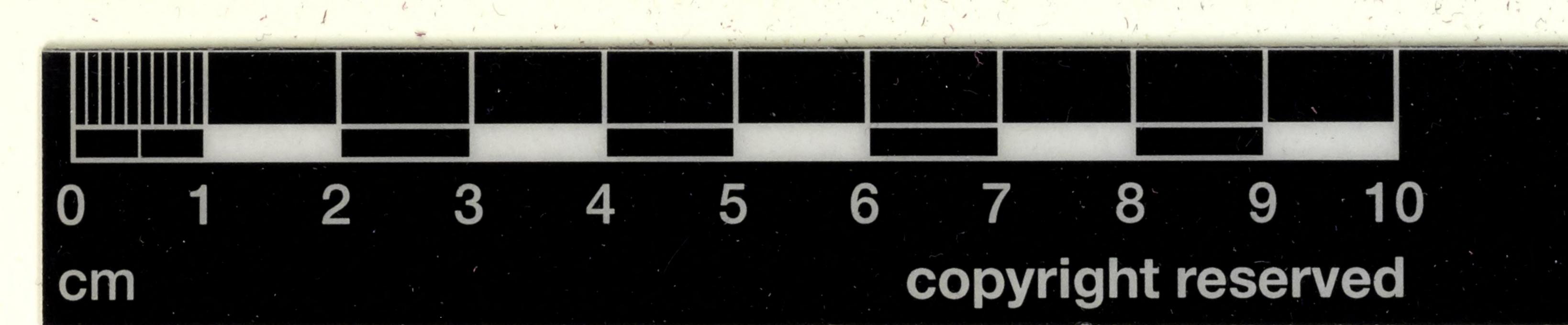




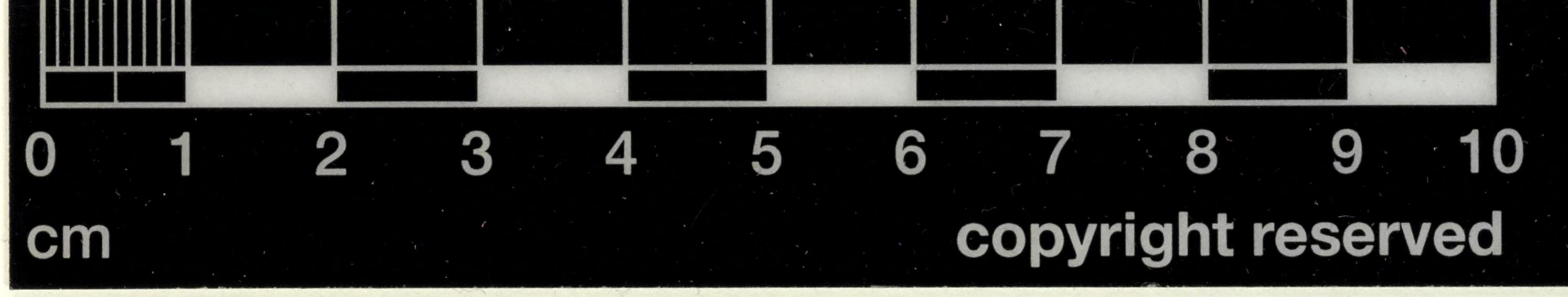
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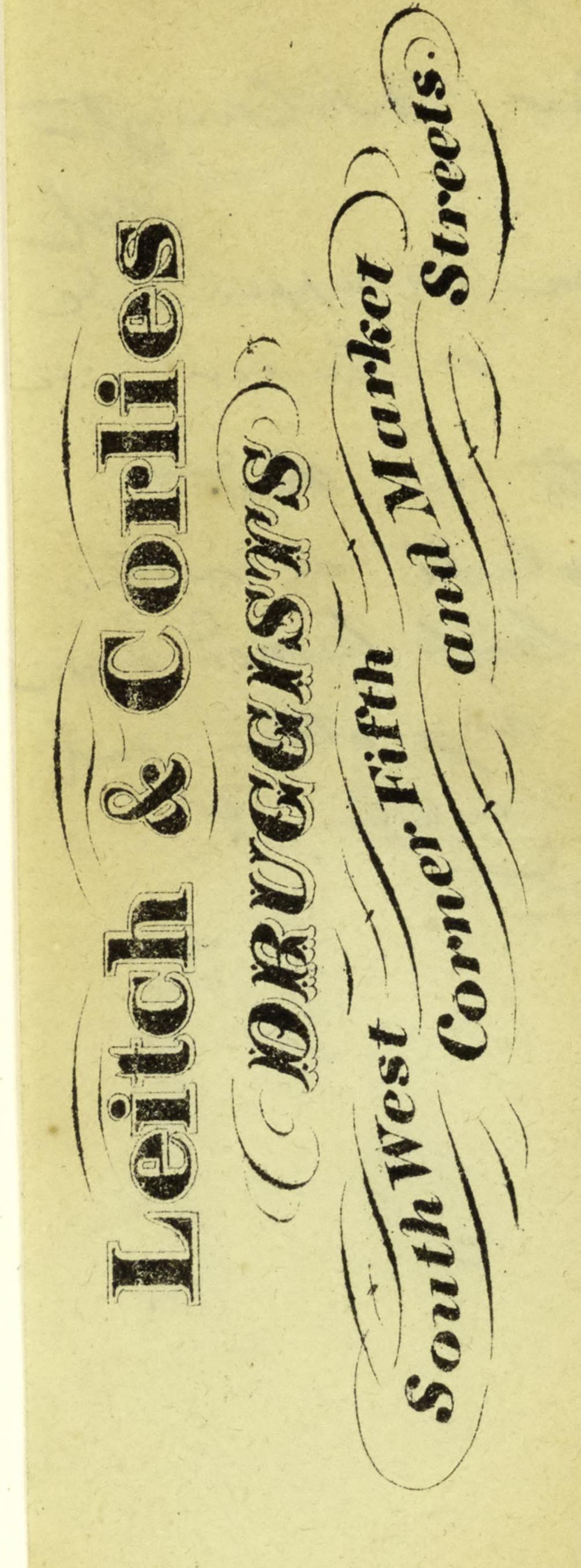


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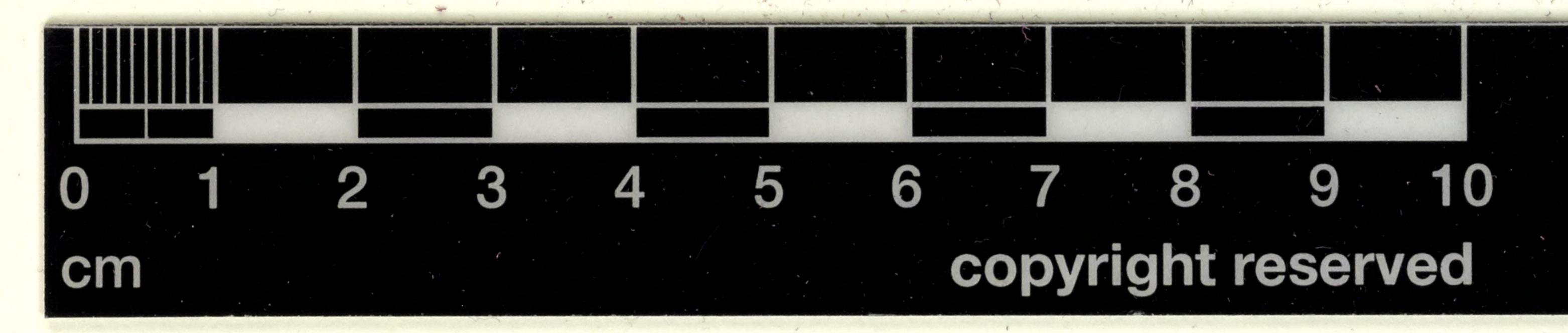


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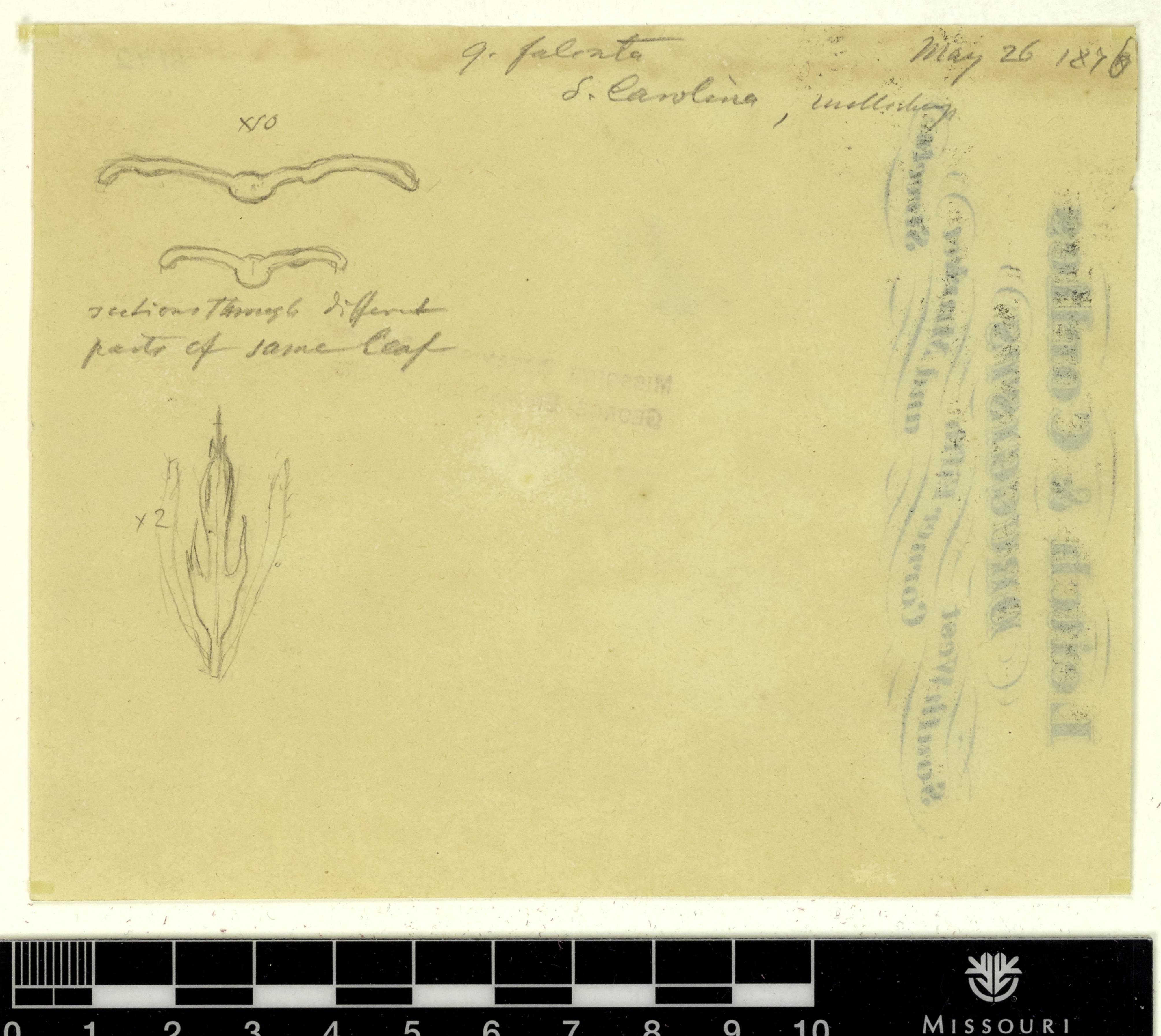
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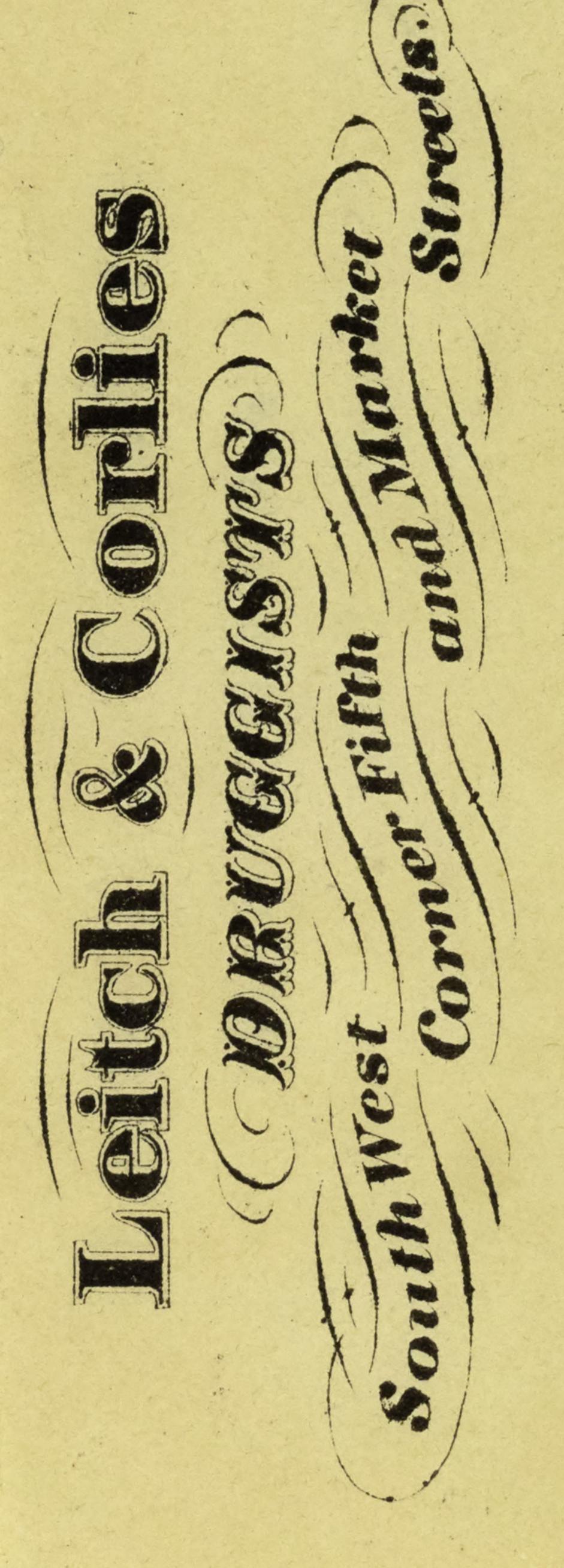
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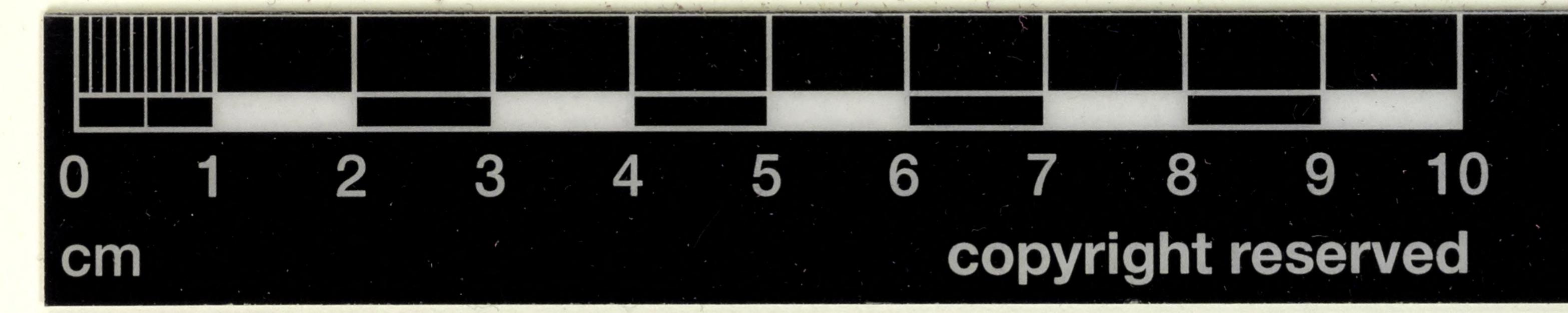




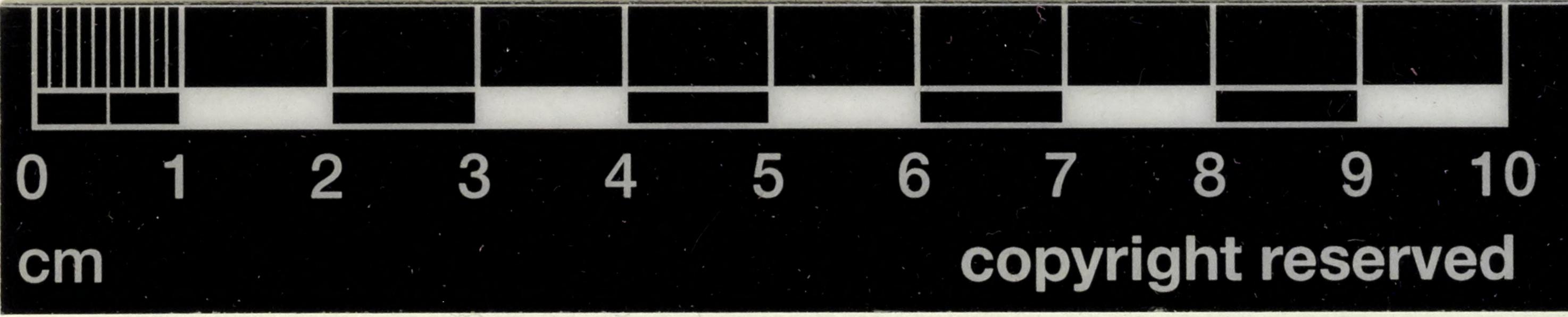
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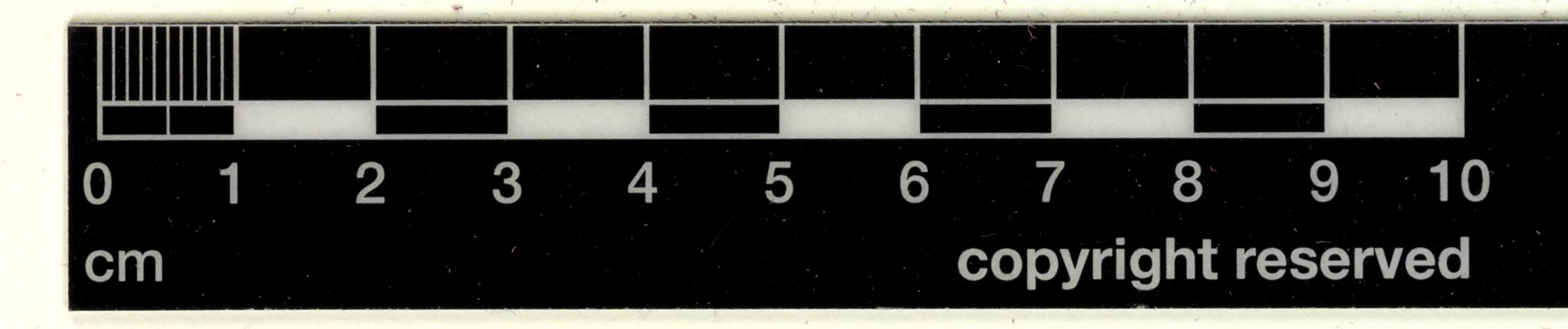
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## ABSTRACT OF THE RECORDS.

The borings indicate 63 ft. of Clay,
6 "Coal,
360 "Shale,
2725 "Limestone,
435 "Sandstone.

When the borings began, the water in the well stood at 40 ft. below the surface; at 134 ft. an 8 or 10 inch opening was struck, and the water sank in the well to a depth of 128 ft. Salt water was obtained at 1220 ft. At 1225 and 1262 ft. from the surface a strong petroleum smell was recognized. Sulphur water was reached at 2140 ft. At 2256 the water in the sand-pump indicated three per cent. of Salt; at 2957, four and a half per cent.; at 3293, two per cent.; at 3367, less than two per cent.; at 3384 ft. three per cent.; and below 3545, seven to eight per cent.

## TEMPERATURE.

Experiments with a Fahrenheit registering thermometer indicated the following:

At the	depth o	of 3127	ft.	the thermometer	indicated	106°.
66		3129		66	66	107°.
66	. 6	3264		6.6	. 6	106°.
. 66	66	3376		66	66	106°.
66	66	3473		66	66	105°.
66	66	3533	66	66	66	105°.
66	66	3604	66	66	6.6	105°.
. 66	66	3641		66	. 66	$104^{\frac{1}{2}^{\circ}}$ .
66	66	3728		66	.66	$105\frac{1}{2}^{\circ}$ .
66	66	3800		66	-66	105°.
66	66	3837		.66	66	105°.

It is to be regretted that no tests of temperature were made above these indicated depths.

In boring to the depth of 833 ft. the drill was often observed to be highly magnetized, but after passing that depth no further influence was observed.

## TUBING.

A cast iron tube of 11½ inches was first put down, reaching from the top to the limestone in the bottom of the well. The tube was then lined with wooden tubing, reducing the diameter

CEORGE ENGELMANN PAPERS MISSOURI BOTANICAL CARDEN to 4½ inches. A 4½-inch drill was then put down, and boring

commenced March 31, 1866, continuing night and day for 3 yrs.

5 mos. and 10 days, every day except Sunday, until August 9,

1869, when work was stopped at a depth of 3843 feet 6 inches. From the 9th of July, 1866, to the 28th of January, 1867, was occupied in enlarging the bore. It was enlarged to 11½ inches to a depth of 1131 ft., and a short iron tube put down. The bore below was enlarged to 6 and afterwards to 10 inches, to 953 ft. depth. A sheet-iron tube, 79 ft. long, was then put down, resting on an offset at the bottom of the 10-inch bore. The 4-inch bore was then enlarged to 6 inches to a depth of 1022 ft., and a 5-inch wrought iron tube, weighing over 6 tons, put down, reaching from the top to the offset at the bottom of the 6-inch bore. The 4½-inch bore was continued downwards to the depth of 3843 feet 6 inches without need of further tubing.

Two wooden plugs with iron screws at the end were driven in, one at the 1022-ft. offset, the other at the 953-ft. offset, in order to separate the fresh from the salt water. If these were withdrawn, the well would be clear from the top to the bottom. The 5-inch tube, reaching to 1022 ft., has been withdrawn, and a pump put down to 400 ft. This pump was worked a few days, the water

On the 10th of April the jars broke in the well, and all broken parts were taken out the same day from a depth of 227 feet. About this time soft clay fell from the upper portion of the bore, when reaming to 6 inches was begun. On the 23d of the same month, 53 ft. of 5-inch tubing was put in and boring resumed. On the 19th of June, the jars broke at a depth of 841 ft., and four days were occupied in getting them and their broken parts out. On the 14th of November, 1867, the rope attached to the sand-pump parted, leaving the pump and most of the rope in the well, but it was taken out in five days. On the 14th of May, 1867, at the depth of 1876 ft., the jars broke, and two and a half days were consumed in taking out the broken parts and making repairs. At 2140 ft. a hard flinty opening was struck which caused the drill to deviate from a direct course, and it was with difficulty that the place was passed. On September 6th, at 2354 ft., the

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